

Table S3. Gene specific primers used for [A] 5'RACE or [B] to amplify full-length genes from lodgepole pine and jack pine cDNA. For In Fusion cloning into pET28b(+), the start codon ATG was removed, the sequence (5' AAATGGGTCGGGATCCG 3') was added to the 5' end of all forward primers and the sequence (5'CCGCAAGCTTGTCGAC 3') was added at the 5' end of all reverse primers. For truncated constructs, the putative signal peptide was removed prior to the Kx₈W motif as per Williams et al., 1998.

[A] Primers used in 5'RACE

Species	Gene	5'RACE primers (5'-3')
Jack pine (<i>Pinus banksiana</i>)	<i>PbLAS1</i>	ACGAGACGCCCTGTCAAGCCCATGA
		CCTCCAGCCTTGGCATACTTCTATGCC
	<i>PbmPIM1</i>	CGAGAGTTGGCAGTGCTGATGATATGGC
	<i>PbmdITPS1</i>	GGTCGTCTAAAATGACCAGACAGAC

[B] Primers used to amplify full-length and truncated candidate diterpene synthases from jack and lodgepole pine

	Species	Gene	Forward primer (5'-3')	Reverse primer (5'-3')
Full length	Lodgepole pine (<i>Pinus contorta</i>)	<i>PcLAS1/2</i>	ATGGCCTTGCCCTTCTTCATTGTC	CTAAGCAACCGGCTGGAAG
		<i>PcmPIM1</i>	ATGGCCATGCCTTTGTGTTTCATTGACATCC	CTACGCAACTGGTTCGAACAGGATCTTTTTG
		<i>PcmISO1</i>	ATGGCCATGCCTTCGTA CTCTCTTTG	CTAAGGGACTGGTTCGAATAGGAT
		<i>PcmdiTPS1/2/3</i>	ATGGCCATGCCCTCCTCTTTAC	CTAGGCAACCGGTTCTGAAG
	Jack pine (<i>Pinus banksiana</i>)	<i>PbLAS1</i>	ATGGCCTTGCCCTTCTTCATTGTC	CTAAGCAACCGGCTGGAAG
		<i>PbmPIM1</i>	ATGGCCATGCCTTTGTGTTTCATTGACATCC	CTACGCAACTGGTTCGAACAGGATCTTTTTG
		<i>PbmISO1</i>	ATGGCCATGCCTTCGTA CTCTCTTTG	CTAAGGGACTGGTTCGAATAGGAT
		<i>PbmdITPS1</i>	ATGGCCATGCCCTCCTCTTTAC	CTAGGCAACCGGTTCTGAAG
Truncated	Lodgepole pine (<i>Pinus contorta</i>)	<i>PcLAS1/2</i>	AAACGAGAATTTCTCCAGG	CTAAGCAACCGGCTGGAAG
		<i>PcmPIM1</i>	AAACGAGAAGAAATCCCCC	CTACGCAACTGGTTCGAACAGGATCTTTTTG
		<i>PcmISO1</i>	AAACGAGACTTCCCTCCA	CTAAGGGACTGGTTCGAA
		<i>PcmdiTPS1/2/3</i>	AAACGAGAATTTCTCCAGG	CTAGGCAACCGGTTCTGAAG
	Jack pine (<i>Pinus banksiana</i>)	<i>PbLAS1</i>	AAACGAGAATTTCTCCAGG	CTAAGCAACCGGCTGGAAG
		<i>PbmPIM1</i>	AAACGAGAAGAAATCCCCC	CTACGCAACTGGTTCGAACAGGATCTTTTTG
		<i>PbmISO1</i>	AAACGAGACTTCCCTCCA	CTAAGGGACTGGTTCGAA
		<i>PbmdITPS1</i>	AAACGAGAATTTCTCCAGG	CTAGGCAACCGGTTCTGAAG